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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
SAN JOSE DIVISION

Quanergy Systems, Inc.

Plaintiff,

v.

Velodyne LiDAR, Inc. and Caterpillar Inc.

Defendants.

Case No.: 5:16-cv-05251-EJD

DEFENDANT VELODYNE'S ANSWER AND COUNTERCLAIM

Defendant Velodyne LiDAR, Inc. ("Velodyne") respectfully submits the following Answer, Affirmative Defenses, and Counterclaims in response to the Corrected Amended Complaint ("CAC" or "Complaint") filed by Plaintiff Quanergy Systems, Inc. ("Quanergy") on November 18, 2016. (Dkt. No. 35.)

PRELIMINARY STATEMENT

Velodyne's investigation and discovery regarding the allegations made by Quanergy in the Corrected Amended Complaint, and Velodyne's defenses thereto, is ongoing. While Velodyne files this Answer to the best of its knowledge and ability, Velodyne reserves the right to supplement and/or amend this Answer to include additional defenses and/or counterclaims that are discovered during the course of this action. To the extent Velodyne does not specifically admit an allegation, at this time Velodyne intends to generally deny such allegation. Velodyne also denies any allegations that may be implied by or inferred from the headings of the Complaint as repeated herein.

THE PARTIES

1. Velodyne admits the allegations in Paragraph 1 of the Complaint.

2. Velodyne admits the allegations in Paragraph 2 of the Complaint.

JURISDICTION AND VENUE

3. Velodyne admits only that the Complaint purports to be an action for declaratory relief under the Declaratory Judgment Act, 28 U.S.C. §§ 2201 and 2202. Velodyne affirmatively states that Quanergy's claim lacks merit. Velodyne denies the remaining allegations in Paragraph 3 of the Complaint.

4. To the extent that Paragraph 4 of the Complaint contains conclusions of law as opposed to allegation of facts, no answer is required. To the extent Paragraph 4 of the Complaint requires an answer, Velodyne admits only that it is subject to this Court's personal jurisdiction only for purposes of this action. Further answering, Velodyne admits only that it does business and maintains its headquarters in this District.

5. Velodyne admits only that venue is proper in this District by virtue of filing its Counterclaims included herein.

GENERAL ALLEGATIONS

6. Velodyne denies that "Quanergy is the leader in automotive and industrial grade 3D time-of-flight LiDAR sensors." Velodyne lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in Paragraph 10 of the Complaint and therefore denies them.

7. Velodyne admits the allegations in Paragraph 7 of the Complaint.

8. Velodyne admits the allegations in Paragraph 8 of the Complaint.

9. Velodyne admits the allegations in Paragraph 9 of the Complaint.

10. Velodyne affirmatively states that Velodyne's counsel's name is "Ann Marie Wahls," not "Ann Marie Walsh," as stated in Paragraph 10 of Quanergy's Complaint. Velodyne disputes Quanergy's characterization of the conversation between counsel for Velodyne and counsel for Quanergy, and therefore denies the remaining allegations in Paragraph 10 of the Complaint.

11. The allegations in Paragraph 11 of the Complaint contain legal conclusions that require no response. To the extent a response is required, Velodyne denies the allegations in Paragraph 11 of the Complaint.

COUNT I:

DECLARATORY JUDGMENT OF NON-INFRINGEMENT OF THE '558 PATENT

12. Velodyne denies the above referenced heading. Velodyne incorporates by reference the answers to the foregoing allegations in Paragraphs 1-11 above as though fully set forth herein.

13. Velodyne admits the allegations in Paragraph 13 of the Complaint.

14. Velodyne denies the allegations in Paragraph 14 of the Complaint.

15. Velodyne denies the allegations in Paragraph 15 of the Complaint.

16. Velodyne denies the allegations in Paragraph 16 of the Complaint.

17. Velodyne denies the allegations in Paragraph 17 of the Complaint.

18. Velodyne denies the allegations in Paragraph 18 of the Complaint.

19. The allegations in Paragraph 19 of the Complaint contain legal conclusions that require no response. To the extent a response is required, Velodyne lacks knowledge or information sufficient to form a belief about the truth of the remaining allegations in Paragraph 19 of the Complaint and therefore denies them.

20. The allegations in Paragraph 20 of the Complaint contain legal conclusions that require no response. To the extent a response is required, Velodyne denies the allegations in Paragraph 20 of the Complaint.

21. The allegations in Paragraph 21 of the Complaint contain legal conclusions that require no response. To the extent that a response is required, Velodyne denies the allegations in Paragraph 21 of the Complaint.

22. The allegations in Paragraph 22 of the Complaint contain legal conclusions that require no response. To the extent that a response is required, Velodyne denies the allegations in Paragraph 22 of the Complaint.

PRAYER FOR RELIEF

Quanergy's "Prayer for Relief" requires no response. To the extent that Quanergy's "Prayer for Relief" requires a response, Velodyne denies that Quanergy is entitled to any relief, either as prayed for in its Complaint or otherwise.

DEMAND FOR JURY TRIAL

Quanergy's "Demand for Jury Trial" does not require a response. Velodyne affirmatively demands a trial by jury on all issues so triable.

AFFIRMATIVE DEFENSES

Velodyne asserts the following affirmative and other defenses set forth below, and in making such defenses does not concede that it bears the burden of proof as to any of them. Discovery has not yet begun in this matter, and Velodyne therefore has not yet fully collected and reviewed all of the information and materials that may be relevant to the matters and issues raised herein. Accordingly, Velodyne reserves the right to amend, modify, or expand these defenses and to take further positions as discovery proceeds in this matter.

FIRST DEFENSE

(Failure to State a Claim)

Quanergy's complaint, on the claim for relief set forth therein, fails to state a claim upon which relief can be granted.

SECOND DEFENSE

(Limitation on Damages)

Quanergy's claims for attorney's fees based upon 35 U.S.C. § 285 are barred, in whole or in part, at least because this case is not exceptional and Velodyne's alleged actions were not willful and malicious.

THIRD DEFENSE

(No Irreparable Harm and Adequate Remedy at Law)

Quanergy's claims for injunctive relief are barred, in whole or in part, at least because Quanergy has not suffered irreparable harm from any alleged action taken by Velodyne or established or properly pleaded any of the factors necessary for an injunction in its favor. In addition, Quanergy's claims for injunctive relief are barred, in whole or in part, at least because Quanergy cannot establish that it does not have any adequately remedy at law or any other factor necessary for an injunction in its favor.

FOURTH DEFENSE

(Additional Defenses)

Quanergy reserves the right to assert any and all defenses which discovery or further investigation may hereafter reveal to be appropriate.

WHEREFORE, having fully answered Quanergy's Complaint, Velodyne prays that Quanergy take nothing by way of its Complaint, that Velodyne be awarded judgment in this action and recover its costs and expenses, including attorney's fees incurred herein, and that the Court grant it other and further relief as the Court may deem just and proper.

COUNTERCLAIM FOR PATENT INFRINGEMENT

Pursuant to Federal Rule of Civil Procedure 13, Defendant and Counterclaim-Plaintiff Velodyne LiDAR, Inc. ("Velodyne"), by and through its undersigned counsel, brings this Counterclaim against Plaintiff and Counterclaim-Defendant, Quanergy Systems, Inc. ("Quanergy") for patent infringement and, in support thereof, alleges as follows:

NATURE OF ACTION

1. This is a civil action for willful patent infringement under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq*, and for such other relief as the Court deems just and proper.

INTRADISTRICT ASSIGNMENT

2. This is an Intellectual Property Action, an excepted category under Civil Local Rule 3-2(a), and consequently should be assigned on a district-wide basis.

THE PARTIES

3. Defendant and Counterclaim-Plaintiff Velodyne is a corporation organized under the laws of the State of Delaware, having a principal place of business at 345 Digital Drive, Morgan Hill, California 95037.

4. On information and belief, Plaintiff and Counterclaim-Defendant Quanergy is a corporation organized under the laws of the State of Delaware, having a principal place of business at 482 Mercury Drive, Sunnyvale, California 94085.

JURISDICTION AND VENUE

5. This civil action asserts claims arising under the Patent Laws of the United States, Title 35, United States Code, including 35 U.S.C. § 271 *et seq*. The Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

6. This Court has both general and specific personal jurisdiction over Quanergy by virtue of, on information and belief, its transacting and doing business in the State of California and this District and/or committing acts of patent infringement in the State of California and this District. Additionally, Quanergy has consented to the jurisdiction of the United States District Court for the Northern District of California by filing the underlying Complaint in this action. In addition, Quanergy conducts continuous and systematic parts of its business in Sunnyvale,

California, which is within the jurisdiction of the Northern District of California. Upon information and belief, Quanergy's principal place of business is in Sunnyvale. Moreover, Velodyne's claims for patent infringement against Quanergy also arise, in part, out of Quanergy's contacts with Sunnyvale, California. Quanergy manufactures, uses, sells, or offers to sell infringing products within this District (and throughout the United States).

7. Venue is proper in this District pursuant to 28 U.S.C. §§ 1391(b), (c), (d) and 1400(b) because, on information and belief, acts of patent infringement have been committed in this District, and because Quanergy is subject to personal jurisdiction in this District. In addition, venue is proper because Velodyne has suffered and continues to suffer harm in this District. Quanergy has also consented to the jurisdiction and venue of the United States District Court for the Northern District of California by filing the underlying Complaint in this action.

INTRODUCTION

8. Velodyne is an innovative developer, manufacturer, and supplier of real-time laser imaging detection and ranging ("LiDAR") sensor technology, which is used in a variety of applications, including autonomous vehicle navigation, vehicle safety systems, 3D mobile and aerial mapping, surveying, security, defense, and industrial automation, among others.

9. Velodyne's founder David S. Hall introduced Velodyne's first high-resolution LiDAR sensor, the HDL-64, in 2007. Thereafter, Velodyne quickly emerged as a global leader in LiDAR technology. Velodyne has invested millions of dollars in developing its technology and, as a result of its substantial investment in research and development, has invented, designed, developed, manufactured, and sold some of the most advanced 3D laser imaging technology in the world.

10. Velodyne's technological achievements have earned it various industry awards, including Frost & Sullivan's 2015 American Automotive Advanced Driver Assistance System (ADAS) Sensors Product Leadership Award for Velodyne's VLP-16 LiDAR puck sensor. *Frost & Sullivan Honors Velodyne LiDAR with 2015 North American Automotive ADAS Sensors Product Leadership Award*, PRWEB (Mar. 25, 2015) (*available at* http://www.prweb.com/releases/2015/03/prweb12602944.htm). Velodyne's "high performance

LiDAR technology has [also] been recognized by global automotive OEMs and rideshare customers as a critical element to enabling the development of fully autonomous vehicles." *Velodyne LiDAR Gears Up for the Autonomous Revolution with Investments from Ford and Baidu*, BUSINESSWIRE (Aug. 16, 2016) (*available at* http://www.businesswire.com/news/home/20160816005465/en).

VELODYNE'S '558 PATENT

11. Being the first in the industry to develop and design the foregoing LiDAR technology, and recognizing that its technology could be copied if another company analyzed its products, Velodyne sought patent protection to prevent its competitors from unlawfully using its ground-breaking LiDAR technology.

12. On June 28, 2011, the United States Patent and Trademark Office, after full and fair examination, duly and legally issued U.S. Patent No. 7,969,558 (the "'558 patent") entitled, "High Definition LiDAR System." A true and correct copy of the '558 patent is attached as Exhibit A.

13. The application for the '558 patent (Application No. 11/777,802) was filed with the United States Patent Office on July 13, 2007. The '558 patent identifies provisional patent application (Provisional Patent Application No. 60/807,305) filed on July 13, 2006, as a related application. The '558 patent names David S. Hall, Velodyne's Founder and Chief Executive Officer, as the sole named inventor.

14. Velodyne owns by assignment all rights, title, and interest in the '558 patent with full rights to enforce the '558 patent and sue and recover for past, present, and future infringement.

QUANERGY'S INFRINGING M8-1 SENSOR

15. In 2012, five years after Velodyne introduced the HDL-64 LiDAR sensor, Louay Eldada founded Quanergy. Like Velodyne, Quanergy provides LiDAR sensing solutions for real-time perception including object detection, classification and tracking, and for 3D mapping and location.

16. Quanergy sells various products throughout the United States and abroad, including Quanergy's M8-1 Sensor, shown below:

17. According to Quanergy's website, http://quanergy.com/m8/, Quanergy's M8-1 Sensor is a "LiDAR powerhouse" that uses "[m]ultiple laser beams and Time-of-Flight (TOF) depth perception" to generate "3D point clouds for spatial sensing" and provides "a 360º field of view, long measurement range, high accuracy, and fine resolution."

18. Publically available Quanergy data sheets provide that Quanergy's LiDAR M8-1 sensors employ a "smart sensing solution[] . . . to enable rapid 3D detection, measurement, tracking, identification and classification of items, as well as triggering actions based on real-time scenario analysis supported by advanced perception software." In addition, Quanergy's

publicly available data sheets state that Quanergy's M8-1 Sensor includes "8 laser/detector pairs" and has a "Frame Rate (Update Frequency)" of "5-30 Hz."

Parameter	Specification
Laser Class	IEC 60825-1:2007 – Class 1 Laser Product (eye safe)
Wavelength	905 nm
Measurement Technique	Time of Flight (TOF)
Measurement Range	150 m (80% reflectivity)
Range Accuracy (1σ at 50 m)	<5 cm
Frame Rate (Update Frequency)	5-30 Hz
Angular Resolution	0.03-0.2°
Sensors	8 laser/detector pairs
Field of View (FOV)	Horizontal: 360°, Vertical: 20° (+3°/-17°)
Operating Temperature	-40°C to +85°C (-40°F to +185°F)
Storage Temperature	-40°C to +105°C (-40°F to +220°F)
Nominal Power	15 W
Operating Voltage	24 VDC
Nominal Weight	800 g
Dimensions	97 mm diameter x 87 mm height
Shock	500 m/sec^2 amplitude, 11 msec duration
Vibration	5 Hz to 2000 Hz, 3 G_{rms}
Environmental Protection	IP69K – rating for ingress protection against dust and water
Laser Safety	IEC 60825-1:2007 – Class 1 Laser Product
Output Connection	1 Gbps Ethernet
Data Outputs	Angle, Distance, Intensity
Returns	3
Output Rate	>400,000 points per second

A true and correct copy of Quanergy's Data Sheet is attached hereto as Exhibit B.

19. Publicly available third party evaluations of the Quanergy M801 Sensor confirms that the "Quanergy M8 LIDAR system consist[s] [of] 8 2D line scanners located on a spinning head [which] can spin at a rate from 5 Hz to 30 Hz." Mittet et al., *Experimental Assessment of the Quanergy M8 LiDAR Sensor*, The International Archives of the Photogrammetry, Remote Sensing and Spatial Sciences, Volume XL-B5, at 527 (July 2016) (*available at* http://www.int-arch-photogramm-remote-sens-spatial-inf-sci.net/XLI-B5/527/2016/isprs-archives-XLI-B5-527-2016.pdf; attached as Exhibit C). A spin rate of 5-30 Hz corresponds to a spin rate of 300-1800 revolutions per minute ("RPMs").

20. On information and belief, Quanergy's use of Velodyne's patented technology allowed Quanergy to enter the LiDAR sensor market far more quickly than Quanergy could have achieved on its own.

21. On information and belief, Quanergy is marketing and selling the M8-1 Sensor to the same actual and potential customers as Velodyne, for the same purposes.

22. Quanergy was aware of the '558 patent since at least as early as December 25, 2013. Quanergy's U.S. Patent Application No. 14/140,522, filed December 25, 2013, specifically references Velodyne's '558 patent, demonstrating that Quanergy knew of Velodyne's patent at least as early as the filing date of its own patent application.

23. In addition, Velodyne provided Quanergy with specific notice of Quanergy's infringement of the '558 patent on August 3, 2016 in a letter from Velodyne's counsel to Quanergy's CEO and Founder, Louay Eldada. The letter stated that Quanergy's M8-1 sensor infringed at least one claim of the '558 patent, and demanded that Quanergy "immediately cease and desist from all further activity that infringes the '558 Patent." Thus, at a minimum, Quanergy was placed on notice of its infringement of the '558 patent since at least as early as August 3, 2016.

24. On information and belief, Quanergy has not taken any steps to avoid infringing the '558 patent. For example, on information and belief, Quanergy has not modified the M8-1 Sensor in any way to avoid infringing the '558 patent.

COUNT I - INFRINGEMENT OF U.S. PATENT NO. 7,969,558

25. Velodyne repeats and realleges the allegations of Paragraphs 1-24 above as though fully set forth herein.

(a) Direct Infringement of the '558 Patent

26. Quanergy, without authorization, has directly infringed, and continues to directly infringe one or more claims of the '558 patent, literally and/or under the doctrine of equivalents. Quanergy's infringement includes infringement of, for example, claims 1 and 19 of the '558 patent which are addressed in further detail below, as well as other claims of the '558 patent which will be identified according to the Court's Rules. Quanergy infringes under 35 U.S.C. § 271 including, without limitation, 35 U.S.C. § 271(a), by making, using, selling, offering to sell, and/or importing within the United States without authority, certain Quanergy products, including but not limited to Quanergy's M8-1 Sensor.

27. Claim 1 of the '558 patent recites:

1. A lidar-based 3-D point cloud system comprising:

a support structure;

a plurality of laser emitters supported by the support structure;

a plurality of avalanche photodiode detectors supported by the support structure; and

a rotary component configured to rotate the plurality of laser emitters and the plurality of avalanche photodiode detectors at a speed of at least 200 RPM.

28. On information and belief, Quanergy's M8-1 Sensor satisfies each and every limitation of claim 1 of the '558 patent.

29. The preamble of claim 1 recites "[a] lidar-based 3-D point cloud system comprising . . . ." To the extent the preamble is a limitation, Quanergy's website and technical documentation show that Quanergy's M8-1 Sensor is a LiDAR sensor that generates 3-D point cloud data. (*See, e.g.*, http://quanergy.com/m8/ (stating that Quanergy's M8-1 Sensor is a "LiDAR powerhouse" that uses "[m]ultiple laser beams and Time-of-Flight (TOF) depth perception" to generate "3D point clouds for spatial sensing" and provides "a 360º field of view, long measurement range, high accuracy, and fine resolution."); Quanergy M8-1 Data Sheet (Exhibit B) at 1 (stating that the M8-1 Sensor is "smart sensing solution[] . . . to enable rapid 3D detection, measurement, tracking, identification and classification of items, as well as triggering actions based on real-time scenario analysis supported by advanced perception software."))

30. Claim 1 further recites "a support structure." On information and belief, Quanergy's M8-1 Sensor includes "a support structure" that supports laser emitters and diodes in the sensor.

31. Claim 1 further recites "a plurality of laser emitters supported by the support structure." Quanergy's own technical documentation confirms that Quanergy's M8-1 Sensor contains "a plurality of laser emitters supported by the support structure" because it shows that the M8-1 Sensor includes at least 8 laser emitter/photodiode detector pairs:

Parameter	Specification
Laser Class	IEC 60825-1:2007 – Class 1 Laser Product (eye safe)
Wavelength	905 nm
Measurement Technique	Time of Flight (TOF)
Measurement Range	150 m (80% reflectivity)
Range Accuracy (1σ at 50 m)	<5 cm
Frame Rate (Update Frequency)	5-30 Hz
Angular Resolution	0.03-0.2°
Sensors	8 laser/detector pairs
Field of View (FOV)	Horizontal: 360°, Vertical: 20° (+3°/-17°)
Operating Temperature	-40°C to +85°C (-40°F to +185°F)
Storage Temperature	-40°C to +105°C (-40°F to +220°F)
Nominal Power	15 W
Operating Voltage	24 VDC
Nominal Weight	800 g
Dimensions	97 mm diameter x 87 mm height
Shock	500 m/sec^2 amplitude, 11 msec duration
Vibration	5 Hz to 2000 Hz, 3 G_{rms}
Environmental Protection	IP69K – rating for ingress protection against dust and water
Laser Safety	IEC 60825-1:2007 – Class 1 Laser Product
Output Connection	1 Gbps Ethernet
Data Outputs	Angle, Distance, Intensity
Returns	3
Output Rate	>400,000 points per second

(Exhibit B (Quanergy M8-1 Data Sheet) at 2; *see also, e.g.*, Exhibit C at 527 (the "Quanergy M8 LIDAR system consist[s] [of] 8 2D line scanners . . . [t]he 8 lasers are spread out . . . .").) On information and belief, the at least 8 laser emitter/photodiode detector pairs in Quanergy's M8-1 Sensor are supported by a support structure.

32. Claim 1 further recites "a plurality of avalanche photodiode detectors supported by the support structure." Quanergy's own technical documentation confirms that Quanergy's M8-1 Sensor contains "a plurality of avalanche photodiode detectors supported by the support structure" because it shows that the M8-1 sensor includes at least 8 laser emitter/photodiode detector pairs:

Parameter	Specification
Laser Class	IEC 60825-1:2007 – Class 1 Laser Product (eye safe)
Wavelength	905 nm
Measurement Technique	Time of Flight (TOF)
Measurement Range	150 m (80% reflectivity)
Range Accuracy (1σ at 50 m)	<5 cm
Frame Rate (Update Frequency)	5-30 Hz
Angular Resolution	0.03-0.2°
Sensors	8 laser/detector pairs
Field of View (FOV)	Horizontal: 360°, Vertical: 20° (+3°/-17°)
Operating Temperature	-40°C to +85°C (-40°F to +185°F)
Storage Temperature	-40°C to +105°C (-40°F to +220°F)
Nominal Power	15 W
Operating Voltage	24 VDC
Nominal Weight	800 g
Dimensions	97 mm diameter x 87 mm height
Shock	500 m/sec^2 amplitude, 11 msec duration
Vibration	5 Hz to 2000 Hz, 3 G_{rms}
Environmental Protection	IP69K – rating for ingress protection against dust and water
Laser Safety	IEC 60825-1:2007 – Class 1 Laser Product
Output Connection	1 Gbps Ethernet
Data Outputs	Angle, Distance, Intensity
Returns	3
Output Rate	>400,000 points per second

(Exhibit B (Quanergy M8-1 Data Sheet) at 2.) On information and belief, the photodiode detectors in Quanergy's M8-1 Sensor are avalanche photodiode detectors, which are also known as "APDs." *See* Stanford Seminar - Solid State LiDar for Autonomous Vehicles, Security, Industrial Automation, 3D Maps, published March 31, 2016 (available at https://www.youtube.com/watch?v=uPqzo29Q9Wc (last viewed December 5, 2016)) (stating "We also make a mechanical LiDAR… the mechanical sends one pulse, detects it with an ADP, measures the time of flight . . . ."). On information and belief, the at least 8 laser emitter/photodiode detector pairs in Quanergy's M8-1 Sensor are supported by a support structure.

33. Claim 1 further recites "a rotary component configured to rotate the plurality of laser emitters and the plurality of avalanche photodiode detectors at a speed of at least 200 RPM." Quanergy's own technical documentation confirms that the 8 laser emitter/photodiode detector pairs in Quanergy's M8-1 Sensor are rotated by a rotary component as a speed of between 5–30Hz or 300–1800 revolutions per minute (RPM):

Parameter	Specification
Laser Class	IEC 60825-1:2007 – Class 1 Laser Product (eye safe)
Wavelength	905 nm
Measurement Technique	Time of Flight (TOF)
Measurement Range	150 m (80% reflectivity)
Range Accuracy (1σ at 50 m)	<5 cm
Frame Rate (Update Frequency)	5-30 Hz
Angular Resolution	0.03-0.2°
Sensors	8 laser/detector pairs
Field of View (FOV)	Horizontal: 360°, Vertical: 20° (+3°/-17°)
Operating Temperature	-40°C to +85°C (-40°F to +185°F)
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Dimensions	97 mm diameter x 87 mm height
Shock	500 m/sec^2 amplitude, 11 msec duration
Vibration	5 Hz to 2000 Hz, 3 G_{rms}
Environmental Protection	IP69K – rating for ingress protection against dust and water
Laser Safety	IEC 60825-1:2007 – Class 1 Laser Product
Output Connection	1 Gbps Ethernet
Data Outputs	Angle, Distance, Intensity
Returns	3
Output Rate	>400,000 points per second

(Exhibit B (Quanergy M8-1 Data Sheet) at 2; *see also*, *e.g.*, Exhibit C at 527 (the "Quanergy M8 LIDAR system consist[s] [of] 8 2D line scanners located on a spinning head which can spin at a rate from 5 Hz to 30 Hz.").)

34. As described in the preceding paragraphs, each limitation of Claim 1 of the '558 patent is met by the accused M8-1 Sensor, either literally or under the doctrine of equivalents.

35. Claim 19 of the '558 patent recites:

> 19. A method of generating a 3-D point cloud comprising: providing a lidar system having:
>
> a support structure, a plurality of laser emitters supported by the support structure;
>
> a plurality of avalanche photodiode detectors supported by the support structure, and a rotary component configured to rotate the plurality of laser emitters and the plurality of avalanche photodiode detectors at a speed of at least 200 RPM;
>
> rotating the plurality of laser emitters and the plurality of avalanche photodiode detectors at a speed of at least 200 RPM; and

emitting light from the plurality of laser emitters.

36. On information and belief, Quanergy's M8-1 Sensor satisfies each and every limitation of claim 19 of the '558 patent.

37. The preamble of claim 19 recites "[a] method of generating a 3-D point cloud comprising: providing a lidar system having . . . ." To the extent the preamble is a limitation, and as described in paragraph 29 above, Quanergy's website and technical documentation show that Quanergy's M8-1 Sensor is a LiDAR sensor that generates 3-D point cloud data.

38. As described in the preceding paragraphs 29-33, Quanergy's M8-1 Sensor includes "a support structure," "a plurality of laser emitters supported by the support structure," "a plurality of avalanche photodiode detectors supported by the support structure," and "a rotary component configured to rotate the plurality of laser emitters and the plurality of avalanche photodiode detectors at a speed of at least 200 RPM."

39. When Quanergy's M8-1 Sensor is used in its normal manner, it "rotat[es] the plurality of laser emitters and the plurality of avalanche photodiode detectors at a speed of at least 200 RPM." (*See, e.g.*, Exhibit C at 527 (the "Quanergy M8 LIDAR system consist[s] [of] 8 2D line scanners located on a spinning head which can spin at a rate from 5 Hz to 30 Hz.").)

40. In addition, on information and belief, light is emitted from "the plurality of laser emitters" in Quanergy's M8-1 Sensor when it is used in its normal manner.

41. As described in the preceding paragraphs, each limitation of Claim 19 of the '558 patent is met by the accused M8-1 Sensor, either literally or under the doctrine of equivalents.

(b) Induced Infringement of the '558 Patent

42. On information and belief, in providing its M8-1 Sensor to its customers, Quanergy has in the past induced, and continues to induce, direct infringement of one or more claims of the '558 patent, literally and/or under the doctrine of equivalents, pursuant to 35 U.S.C. § 271(b), including at least claims 1 and 19 of the '558 patent.

43. As described above, Quanergy had knowledge of the '558 patent since at least as early as December 25, 2013 and knowledge of its infringement of the '558 patent since at least August 3, 2016. (*See* ¶¶ 22-24, *supra*.)

44. On information and belief, Quanergy encouraged, instructed, and/or enabled its customers to use its M8-1 Sensor with knowledge that the normal use of its M8-1 Sensor infringed one or more claims of the '558 patent, including at least claims 1 and 19 of the '558 patent.

45. On information and belief, Quanergy possessed a specific intent to induce infringement by, at a minimum, providing user guides, instructions, sales-related material, and/or other supporting documentation, and by way of advertising, solicitation, and provision of product instruction materials, that instruct its customers on the normal operation of its M8-1 Sensor in a manner that infringes one or more claims of the '558 patent, including at least claims 1 and 19 of the '558 patent, or Quanergy believed there was a high probability that the acts of its customers would infringe one or more claims of the '558 patent, including at least claims 1 and 19 of the '558 patent, and took deliberate steps to avoid learning of that infringement. (*See, e.g.*, ¶¶ 26-41, *supra*).

(c) Contributory Infringement

46. On information and belief, by providing its M8-1 Sensor to its customers, Quanergy has in the past contributed, and continues to contribute, to the direct infringement of one or more claims of the '558 patent, literally and/or under the doctrine of equivalents, in violation of 35 U.S.C. § 271(c), including at least claim 19 of the '558 patent.

47. As described above, Quanergy had knowledge of the '558 patent since at least as early as December 25, 2013 and knowledge of its infringement of the '558 patent since at least August 3, 2016. (*See* ¶¶ 22-24, *supra*.)

48. On information and belief, Quanergy's customers use Quanergy's M8-1 Sensor in a manner that directly infringes, literally and/or under the doctrine of equivalents one or more claims of the '558 patent, including at least claim 19 of the '558 patent.

49. Despite knowledge of the '558 patent and its infringement of the '558 patent, Quanergy sold, offered for sale or imported into the United States its M8-1 Sensor with knowledge that Quanergy's customers would use its M8-1 Sensor to practice in an infringing way at least the method recited in claim 19 of the '558 patent.

50. On information and belief, Quanergy's M8-1 Sensor is not a staple article or commodity of commerce capable of substantial non-infringing use.

51. On information and belief, Quanergy's M8-1 Sensor is a material part of the invention of one or more claims of the '558 patent, including at least claim 19 of the '558 patent.

52. On information and belief, Quanergy knew that its M8-1 Sensor is especially made for use in a manner that infringes, or especially adapted for use in an infringement of, literally and/or under the doctrine of equivalents, one or more claims of the '558 patent, including at least claim 19 of the '558 patent. (*See, e.g.*, ¶¶ 35-41, *supra.*)

(d) Quanergy's Willful Infringement of the '558 Patent

53. As described above, Quanergy has been aware of the '558 patent at least as early as December 25, 2013 and has been aware of its infringement of the '558 patent since at least August 3, 2016. (*See* ¶¶ 22-24, *supra*.) Quanergy's infringement has been and continues to be willful, entitling Velodyne to enhanced damages under 35 U.S.C. § 284 and a finding that this case is exceptional, entitling Velodyne to an award of reasonable attorneys' fees under 35 U.S.C. § 285.

54. Quanergy's infringement of the '558 patent has damaged, and will continue to damage, Velodyne's business, reputation, and goodwill, causing irreparable harm for which there is no adequate remedy at law. Velodyne will continue to suffer damage and irreparable injury unless and until that infringement is enjoined by this Court pursuant to 35 U.S.C. § 283.

55. Velodyne is entitled to injunctive relief and damages in amount to be proven at trial in accordance with 35 U.S.C. §§ 271, 281, 283, and 284.

PRAYER FOR RELIEF

WHEREFORE, Velodyne respectfully requests that the Court enter judgment in its favor and against Quanergy on its counterclaim for patent infringement as follows:

A. A judgment that Quanergy has infringed and continues to infringe one or more claims of the '558 patent under at least 35 U.S.C. § 271(a);

B. A judgment that Quanergy has induced and continues to induce others to infringe one or more claims of the '558 patent under at least 35 U.S.C. § 271(b);

C. Quanergy has contributed and continues to contribute to infringement by others of one or more claims of the '558 patent under at least 35 U.S.C. § 271(c);

D. A judgment that Quanergy's infringement under at least 35 U.S.C. §§ 271(a), (b), and (c) has been and continues to be willful;

E. An award of monetary damages, to be obtained from any and all of Quanergy's assets, sufficient to compensate Velodyne for Quanergy's patent infringement, together with interest, pursuant to at least 35 U.S.C. § 284;

F. An award of enhanced damages, to be obtained from any and all of Quanergy's assets, of three times the amount found or assessed for Quanergy's willful patent infringement, pursuant to 35 U.S.C. § 284, including prejudgment interest on such damages;

G. An order finding this case exceptional and awarding Velodyne its attorneys' fees, to be obtained from any and all of Quanergy's assets, pursuant to 35 U.S.C. § 285, including prejudgment interest on such fees;

H. A preliminary and permanent injunction prohibiting Quanergy and its officers, agents, representatives, assigns, licenses, distributors, servants, employees, related entities, attorneys, and all those acting in concert, privity, or participation with them, from:

1. infringing, inducing, or contributing to the infringement of any claim of the '558 patent; and

2. soliciting any new business or new customers using any information or materials that Quanergy derived from its infringement of the '558 patent;

I. An accounting and supplemental damages for all damages occurring after the period for which damages discovery is taken, and after discovery closes, through the Court's decision regarding the imposition of a permanent injunction;

J. An award of Velodyne's costs and expenses of this suit as the prevailing party, to be obtained from any and all of Quanergy's assets; and

K. Any other relief as the Court deems necessary, just, and/or proper.

DEMAND FOR JURY TRIAL

Pursuant to Federal Rule of Civil Procedure 38(b), Velodyne hereby demands a trial by jury on all issues so triable.

Dated: December 5, 2016

Respectfully submitted,
LATHAM & WATKINS LLP

/s/ Douglas E. Lumish

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